



Memo

To: Brian Mossman, S. Mario Stavale
From: Dean Kirk
CC: Tom Danaher, Rus Purcell (Kennedy Jenks), IESI Boeing C-6 file
Date: August 4, 2000
Re: Water-Supply Wells, Boeing C-6 Facility, Los Angeles

Provided herewith is an update on the Water-Supply Wells record search for the Boeing C-6 facility located in Los Angeles, California.

Integrated Environmental Services (IESI) completed a thorough review of IESI files, library documents and electronic documents.

A total of three Water-Supply Wells were located on the site.

Water-Supply Well #2 and #3 were destroyed in accordance with a Los Angeles Regional Water Quality Control Board (LARWQCB) approved workplan. A copy of the agency approval letter is attached. Richard C. Slade and Associates (RCS) prepared the workplan. IESI provided oversight during the workplan development and well destruction activities. A copy of the workplan is attached.

RCS prepared a well destruction summary report which was approved by the LARWQCB. A copy of the agency approval letter is attached. One outstanding item exists from the Boards letter dated December 24, 1998. Water-Supply Well #2 will require the surface concrete to be drilled out to 5-feet below ground surface and a concrete "mushroom cap" placed over it when site conditions allow.

Copies of the original well logs for Water-Supply Well #1-3 were located and are attached. The logs contained measured coordinates from the centerlines of Normandie Avenue and 190th street. I had these plotted on the Boeing C-6 base map. The well locations are shown on Figure 1 (attached). Based upon the coordinates and base map, Water-Supply Well #1 is located approximately in the middle of the building 20 footprint. This may be helpful with locating Water-Supply Well #1 during the demolition activities.

Based upon the existence of Water-Supply Well #1 well log, I believe its safe to assume the well existed.

No information regarding the destruction of Water-Supply Well #1 was found except for a statement in RCS workplan and final report, "Well no. 1 reportedly no longer exists at the site, and there are no records to document when and how Well no. 1 was destroyed."

I contacted Richard Slade of RCS and he had no additional information on the well.

I believe the destruction may have occurred prior to the implementation of any agency well destruction standards. The water well standards, published by the DWR were initially printed in 1968.

I will continue to search the DWR, United States Geological Survey (USGS) and Los Angeles County Department of Public Works, Flood Control District (LACDPWFCD) for records on Water-Supply Well #1. I will keep you updated on these activities.

Please let me know if you have any questions or comments.

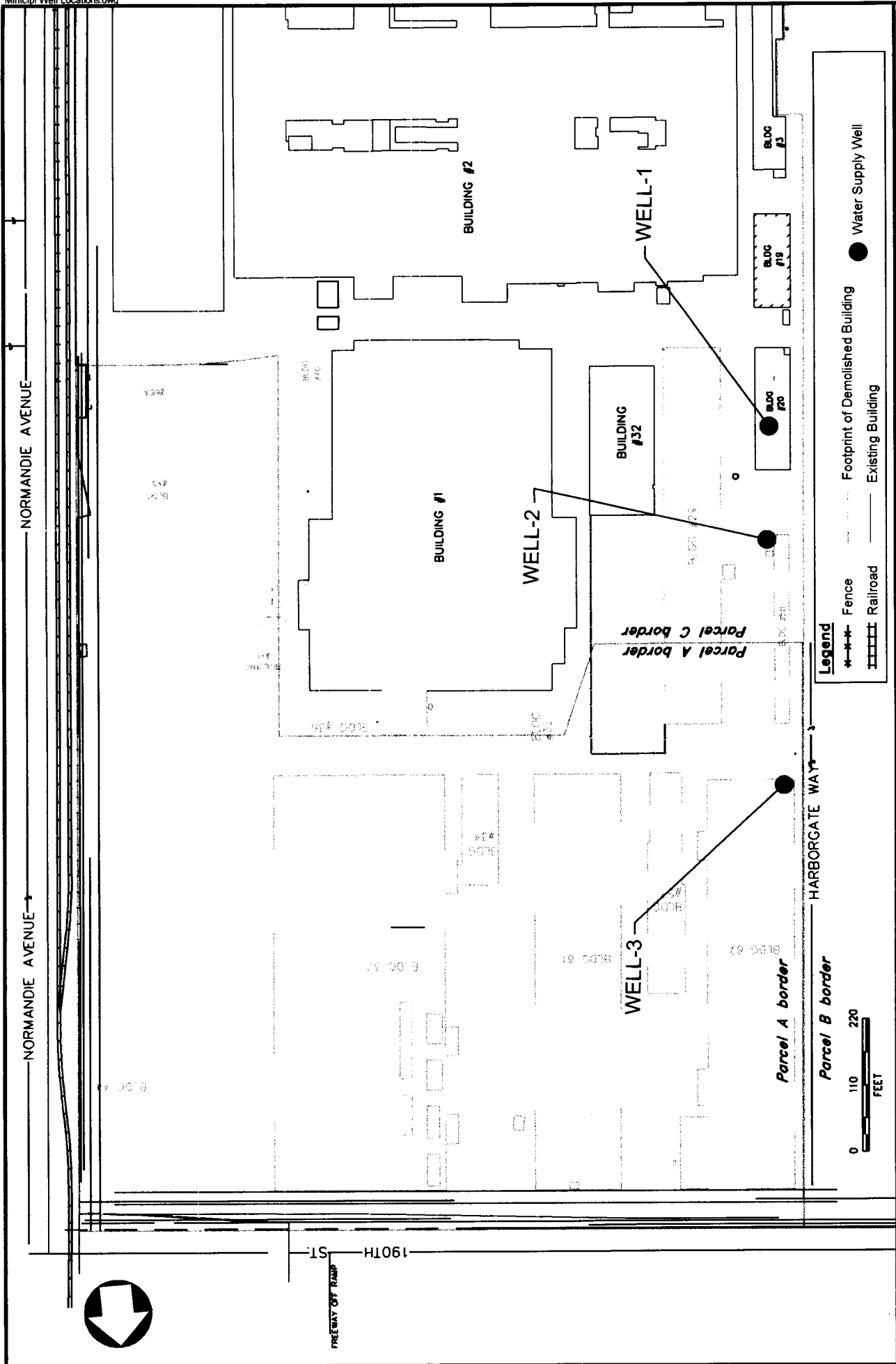
Attachments: IESI, figure 1, Water Supply Well Location Map, Parcels A and C

California Environmental Protection Agency, California Regional Water Quality Control Board, Los Angeles Region, Correspondence dated 12/24/98, 8/12/98, 6/22/98, 4/23/98

Department of Water Resources, Correspondence (well logs) dated 7/6/98

Richard D. Slade & Associates, Workplan for Destruction of Two Water-Supply Wells at the Boeing Realty Corporation C-6 Facility, Los Angeles, California, June 1998

Richard D. Slade & Associates, Summary of Operations, Destruction of Two Water-Supply Wells, Boeing Realty Corporation, C-6 Facility, Los Angeles, California, September, 1998



INTEGRATED Environmental Services, Inc. 22932 El Toro Road Lake Forest, CA 92630 (949) 608-3290		Boeing C-6 Facility 19503 South Normandie Ave. Los Angeles, California 90502		FIGURE NO.: 1
TITLE: Water Supply Well Location Map Parcels A and C		DWN: JDL DATE: 8/1/00 PROJECT NO.: 006A/002	CHKD: DK REV: 8/3/00	



Peter M. Rooney
Secretary for
Environmental
Protection

California Regional Water Quality Control Board

Los Angeles Region

Internet Address: <http://www.swrcb.ca.gov/~rwqcb4>
101 Centre Plaza Drive, Monterey Park, California 91754-2156
Phone (323) 266-7500 FAX (323) 266-7600



Pete Wilson
Governor

December 24, 1998

Mr. Chris Stoker
Integrated Environmental Services, Inc.
3990 Westerly Place, Suite 210
Newport Beach, CA 92660

SUMMARY OF OPERATIONS - DESTRUCTION OF TWO WATER-SUPPLY WELLS AT THE BOEING REALTY CORPORATION C-6 FACILITY, LOS ANGELES, CALIFORNIA (FILE NO. 100.315)

We have received and reviewed your *Summary of Operations - Destruction of Two Water-Supply Wells at the Boeing Realty Corporation C-6 Facility in Los Angeles*, dated September 1998. Staff also discussed the results of the well destruction operations with you on August 24, 1998. Based on the above, we concur that Deep Wells No. 2 and 3 were destroyed and abandoned in accordance with the approved workplan and ensuing addenda. Please note that the top five (5) feet of Deep Well No. 2 will be drilled out and filled with a concrete "mushroom cap" when site conditions allow, as per your August 24, 1998 request.

Should you have any questions or comments regarding the above, please call Hugh Marley at (323) 266-7669.

J.E. ROSS, P.E., Unit Chief
Site Cleanup Unit

cc: Ms. Karen Baker, DTSC, Long Beach
Ms. Debbie Oudiz, Office of Scientific Affairs
Mr. Mario Stavale, Boeing Realty Corporation
Mr. Jeff Dhont, Federal EPA

California Environmental Protection Agency

Our mission is to preserve and enhance the quality of California's water resources for the benefit of present and future generations.

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BOE-C6-0143018



Peter M. Rooney
Secretary for
Environmental
Protection

California Regional Water Quality Control Board

Los Angeles Region

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101 Centre Plaza Drive, Monterey Park, California 91754-2156
Phone (323) 266-7500 FAX (323) 266-7600



Pete Wilson
Governor

August 12, 1998

Mr. Chris Stoker
Integrated Environmental Services, Inc.
3990 Westerly Place, Suite 210
Newport Beach, CA 92660

RESPONSE TO COMMENTS - WORKPLAN FOR DESTRUCTION OF TWO WATER-SUPPLY WELLS AT THE BOEING REALTY CORPORATION C-6 FACILITY, LOS ANGELES, CALIFORNIA (FILE NO. 100.315)

We have received and reviewed your *Response to Comments on the Workplan for Destruction of Two Water-Supply Wells at the Boeing Realty Corporation C-6 Facility in Los Angeles*, dated August 10, 1998. Staff also discussed the responses with BRC's consultants during a comment resolution conference call on August 4, 1998. Our comments on the potential for cross contamination between aquifers during the well destruction process, forwarded to BRC on June 22, 1998, have been appropriately addressed. You are authorized to implement the deep well destruction workplan.

Should you have any questions or comments regarding the above, please call Hugh Marley at (213)266-7669.

J.E. ROSS, P.E., Unit Chief
Site Cleanup Unit

cc: Ms. Karen Baker, DTSC, Long Beach
Ms. Debbie Oudiz, Office of Scientific Affairs
Mr. Mario Stavale, Boeing Realty Corporation
Mr. Jeff Dhont, Federal EPA

California Environmental Protection Agency



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BOE-C6-0143019



Peter M. Rooney
Secretary for
Environmental
Protection

California Regional Water Quality Control Board

Los Angeles Region

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101 Centre Plaza Drive, Monterey Park, California 91754-2156
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Pete Wilson
Governor

June 22, 1998

Mr. Chris Stoker
Integrated Environmental Services, Inc.
3990 Westerly Place, Suite 210
Newport Beach, CA 92660

WORKPLAN FOR DESTRUCTION OF TWO WATER-SUPPLY WELLS AT THE BOEING REALTY CORPORATION C-6 FACILITY, LOS ANGELES, CALIFORNIA (FILE NO. 100.315)

We have received and reviewed your *Workplan for Destruction of Two Water-Supply Wells at the Boeing Realty Corporation C-6 Facility in Los Angeles*, dated June 1998. Our comments are as follows:

- Shallow groundwater in the vicinity of the two wells may be contaminated. The abandonment procedure includes perforating the well casing. Please address the likelihood that this procedure may introduce contaminants from the shallow groundwater into deeper aquifers. Include any known data on the potentiometric surface for each aquifer penetrated by the well. Identify the time difference between perforating the casing and grouting the well.
- The workplan states, on page 6, that the well sediment will be sampled for VOCs and nitrate. Please clarify why only VOCs and nitrates were selected. Also, include the sediment sampling results as part of the final report.
- Should oil (free product) be detected in the well, as discussed on page 4, we will require that the oil be analyzed, and its impact on the aquifer, if any, be determined.

Should you have any questions or comments regarding the above, please call Hugh Marley at (213)266-7669.

J.E. ROSS, P.E., Unit Chief
Site Cleanup Unit

cc: Ms. Karen Baker, DTSC, Long Beach
Ms. Debbie Oudiz, Office of Scientific Affairs
Mr. Mario Stavale, Boeing Realty Corporation
Mr. Jeff Dhont, Federal EPA

California Environmental Protection Agency



Recycled Paper

Our mission is to preserve and enhance the quality of California's water resources for the benefit of present and future generations.

BOE-C6-0143020



Cal/EPA

**Los Angeles
Regional Water
Quality Control
Board**

101 Centre
Plaza Drive
Monterey Park,
CA
91754-2156
(213) 266-7500
FAX (213) 266-
7600

April 23, 1998

Mr. Chris Stoker
Integrated Environmental Services, Inc.
3990 Westerly Place, Suite 210
Newport Beach, CA 92660

PROPOSAL FOR WELL ABANDONMENT - BOEING C-6 FACILITY, LOS ANGELES, CALIFORNIA (FILE NO. 100.315)

We have received and reviewed your proposal to abandon Owners Well No. 2 and Owners Well No. 3, located on the Boeing C-6 Facility in Los Angeles, dated April 15, 1998. The wells, part of the former fire suppression system, extend to a depth of 600 feet below ground surface. Well construction details, screen length, and overall condition are currently unknown. During the course of discussions held on March 2, 1998 and April 2, 1998, BRC proposed abandoning Owners Well No. 2 and Owners Well No. 3, and replacing them with two, properly constructed, deep monitoring wells, if required. Therefore, we concur with your proposal to abandon Owners Well No. 2 and Owners Well No. 3. However, we continue to believe that sampling the deep wells prior to abandonment must be included in the proposed workplan, as it may provide data pertinent both to the ongoing groundwater investigation and as to whether additional deep wells are required.

Should you have any questions or comments regarding the above, please call me at (213)266-7550.

J.E. ROSS, P.E., Unit Chief
Site Cleanup Unit

cc: Ms. Karen Baker, DTSC, Long Beach
Ms. Debbie Oudiz, Office of Scientific Affairs
Mr. Mario Stavale, Boeing Realty Corporation
Mr. Jeff Dhont, Federal EPA



Pete
Wilson
Governor

DEPARTMENT OF WATER RESOURCES

770 Fairmont Avenue
Glendale, CA 91203-1035
(818) 543-4600, Ext. 223



Greg

7/6/98

We are sending you the following:

- ☐ Chemical analyses of surface/ground water
- ☐ Quality criteria for domestic and irrigation water
- ☐ Postal cards for ☐ Depth to water
 ☐ Climate
 ☐ Reservoir storage
- ☐ Envelopes
- ☐ Record books
- ☐ Notice of Intent, DWR Form No. 2125 (monthly printout)
- ☐ Water Well Drillers Reports, DWR Form No. 188, Rev. 7-90
- ☐ "General Information concerning Water Well Reports", and an extract from the California Water Code
- ☐ DWR Bulletin No. 74-81, Water Well Standards: State of California
- ☐ DWR Bulletin No. 74-90, Water Well Standards Supplement
- ☒ Ground water level records
- ☐

Note : Water Level and Water Quality records were obtained from a number of different agencies over a period of years. Because many of the records were not verified, we cannot be certain of the accuracy of all the data.

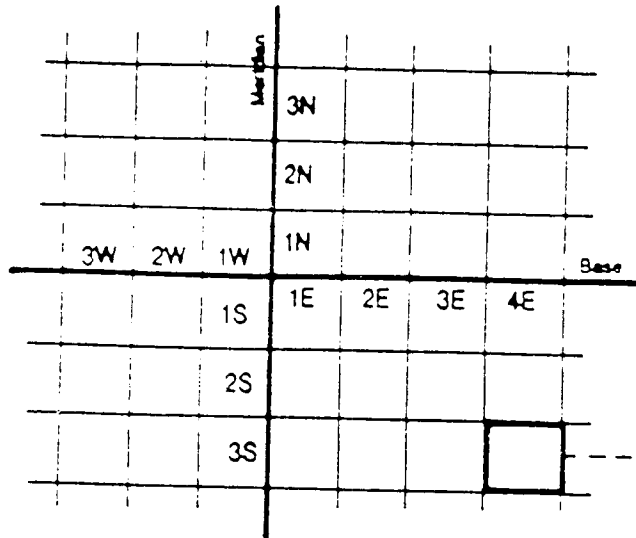
Sincerely,

Ed Low, Associate Engineer
Data unit
Resources Assessment Branch
Southern District

Enclosure(s)

I would compare these
logs with the nearest
cross section you
can find - Bull 104
App. A.

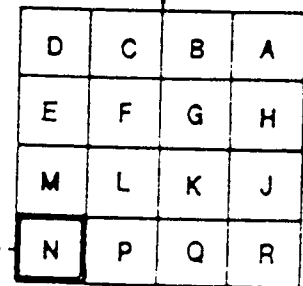
STATE WELL NUMBER 03S/04E-36N04S



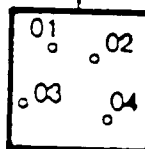
SAN BERNARDINO BASE
AND MERIDIAN
Township and Range
Numbering System



TOWNSHIP 03 SOUTH,
RANGE 04 EAST
Section Numbering System



SECTION 36
Tract Numbering System



TRACT "N"
Well Numbering System
and Location

DIVISION OF WATER RESOURCES
DEPARTMENT OF PUBLIC WORKS
STATE OF CALIFORNIA

75/14 W - 4/1/57
SHEET 1
NUMBER R-103e

WELL LOG

LOCAL DESIGNATION #1

LOCATION 1800 feet west of Normalville (72212)

U.S.G.S. 4/14-157

100 794 A

1860 N. 190th Street

OWNER Aluminum Co. of America

SKETCH

DATE COMPLETED Oct. 1948

DIAMETER OF CASING 14"

DRILLED BY Roscoe Moss

SOURCE OF INFORMATION U.S.G.S. 4/14-157

INSPECTED WHILE DRILLING SEE FILE NO.

SURFACE ELEVATION 51

1800
918 N.E.M. 30-33'

FOR FIELD COPIES USE ALTERNATE LINES

DEPTH	ELEVATION OF BOTTOM OF STRATUM	MATERIAL	THICKNESS FEET	% VOIDS	ABSOLUTE VOIDS FEET	TOTAL VOIDS FEET
0-104	103	Sandy clay - soft streaks				
104-130	131	Fine sand				
130-210	229	Blue sand and clay				
210-230	239	Blue clay				
230-292	242	Sand and gravel to 2 1/4"				
292-420	269	Blue sandy clay				
420-455	407	Clay				
455-465	415	Fine to coarse sand				
465-470	419	Blue clay				
470-480	429	Sand to 1 1/2" gravel				
480-490	433	Clay, sand and gravel				
490-500	437	Sand, gravel to 3"				
500-510	451	Sand to 3/4" gravel				
510-535	415	Sandy clay, some gravel				
535-600	540	Fine sand and clay				
		Perforated 473-614				
		Water first struck 55'				
		after 150'. 55'				

DIVISION OF WATER RESOURCES

DEPARTMENT OF PUBLIC WORKS

STATE OF CALIFORNIA

SHEET 1

NUMBER P-1030

WELL LOG

LOCAL DESIGNATION #2U.S.G.S. 4/14-1B2Loc. 794 BLOCATION 1100 feet west of Normandie Avenue1100 feet south of 190th StreetOWNER Aluminum Co. of AmericaDATE COMPLETED October 1942DIAMETER OF CASING 14"DRILLED BY Roscoe MossSOURCE OF INFORMATION U.S.G.S. & L.A.C. FIELDINSPECTED WHILE DRILLING SEE FILE NO.SURFACE ELEVATION 51

SKETCH

Test 810 f.p.m. DD=29'

DEPTH	ELEVATION OF BOTTOM OF STRATUM	MATERIAL	THICKNESS FEET	% VOIDS	ABSOLUTE VOIDS FEET	TOTAL VOIDS FEET
0-35	-14	Sandy clay				
35-157	-15.5	Sandy clay soft streaks				
157-185	-17.4	Fine sand				
185-212	-16.1	Blue sand and clay				
212-420	-34.4	Blue clay				
420-428	-37.7	Fine sand to 3/8" gravel				
428-434	-38.9	Blue sand and clay				
434-455	-40.7	Blue clay				
455-452	-41.1	Fine sand and clay				
452-475	-42.4	Blue clay				
475-482	-43.1	Sand and gravel to 1"				
482-485	-43.7	Clay and gravel				
485-504	-45.3	Sand and gravel to 2"				
504-522	-47.1	Sand and clay				
522-526	-47.7	Sand to 3/4" gravel				
526-533	-48.2	Fine sand some gravel				
533-538	-48.7	Sand and gravel to 3/4"				
538-545	-49.4	Sand and clay				
545-590	-54.7	Sandy clay				
		Perforated 477-506				
		525-530				
		535-540				
		Water first struck 67'				
		" after perf. 84'				

FOR FIELD COPIES USE ALTERNATE LINES

LOG OBTAINED BY

97504 x 12 (11M) CALIFORNIA STATE PRINTING OFFICE

DATE

BOE-C6-0143025

DIVISION OF WATER RESOURCES DEPARTMENT OF PUBLIC WORKS STATE OF CALIFORNIA

NUMBER R-1038

WELL LOG

LOCAL DESIGNATION 43

U.S.C.S. 4/14 1H3

LOCATION 1247 feet west of Norrandy Avenue

Loc. 794 C

400 feet south of 190th Street

OWNER Aluminum Co. of America

SKETCH

DATE COMPLETED August 1948

DIAMETER OF CASING 14"

Test 1375 rpm at
DD=33'

DRILLED BY Roscoe Moss

SOURCE OF INFORMATION U.S.C.S. 4/14 1H3

INSPECTED WHILE DRILLING SEE FILE NO.

SURFACE ELEVATION 51

FOR FIELD COPIES USE ALTERNATE LINES

DEPTH	ELEVATION OF BOTTOM OF STRATUM	MATERIAL	THICKNESS FEET	% VOIDS	ABSOLUTE VOIDS FEET	TOTAL VOIDS FEET
0-37	46	Top soil				
3-52	47	Clay				
52-113	47	Sandy clay - 30" streaks				
113-122 1/2	71	Fine brown sand				
122-134	73	Brown sandy clay				
134-163 1/2	74	Blue clay - streaks sand				
163-187	75	Fine blue sand				
187-214	75	Blue sandy clay				
214-316	75	Blue clay				
316-384	273	Blue clay - 1/4" embedded gravel				
384-330	273	Blue clay				
330-333	274	Blue clay 1/4" embedded gravel				
333-416	277	Blue clay				
416-424 1/2	278	Fine muddy sand some 1/4" to 1/2" gravel				
424-432	281	Fine sand to 3/8" clay				
432-437	286	Fine sand and clay				
437-450	288	Blue sandy clay				
450-470	289	Fine sand and clay				
470-474	423	Blue clay				
474-482	427	Sand and gravel to 1"				
482-495	444	Sand and gravel to 3/4"				
495-515	444	Sand and gravel to 2"				
515-519	471	Sand and gravel to 1/2" muddy				
519-535	475	Fine sand and clay				
535-547	476	Sand and gravel to 1"				
547-573	522	Fine sandy clay				
573-590 1/2	540	Blue clay				

Interf. 427-433

478-516

538-550

Water first struck 79'

" after perfo 83'

South Coastal Basin

DIVISION OF WATER RESOURCES
DEPARTMENT OF PUBLIC WORKS
STATE OF CALIFORNIA45/14W-7P1
SHEET 1

NUMBER

WELL LOG

LOCAL DESIGNATION

Loc. 5795

LOCATION 588 feet West of Normandie Avenue, 5847 North
Del Amo Boulevard

OWNER Stauffer Chemical Company

DATE COMPLETED June 10, 1948

DIAMETER OF CASING 18"

DRILLED BY Barber-Bridge Drilling Corp., Ltd.

SOURCE OF INFORMATION Stauffer Chemical Company

INSPECTED WHILE DRILLING SEE FILE NO.

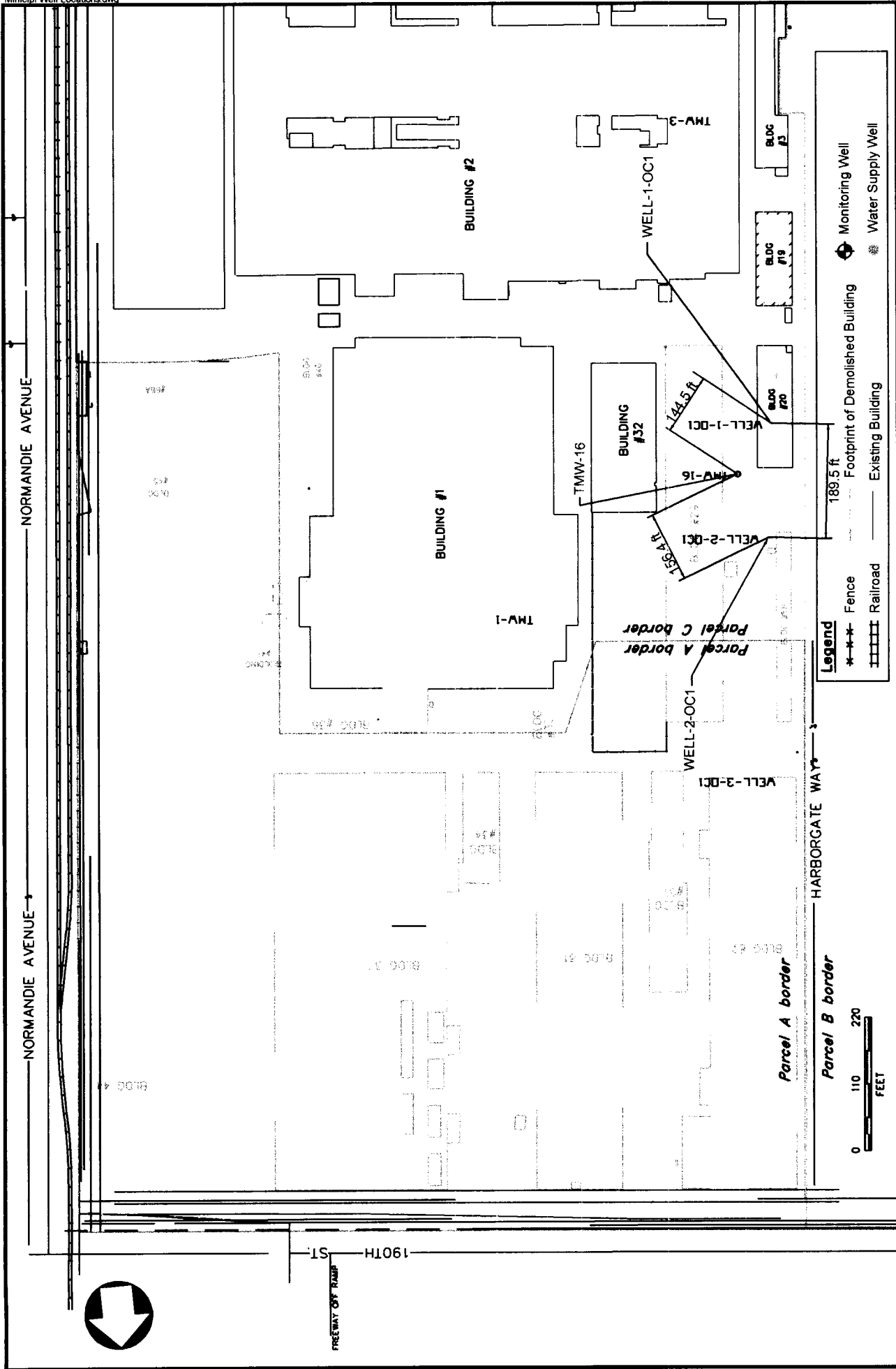
SURFACE ELEVATION 47' U.S.C.S. Topo.

SKETCH

FOR FIELD COPIES USE ALTERNATE LINES

DEPTH	ELEVATION OF BOTTOM OF STRATUM	MATERIAL	THICKNESS FEET	% VOIDS	ABSOLUTE VOIDS FEET	TOTAL VOIDS FEET
0' - 1'		Black adobe				
1' - 2'		Clay yellow				
2' - 3'		Cemented shells				
3' - 4'		Sand dry				
4' - 5'		Clay yellow				
5' - 6'		Clay blue				
6' - 7'		Coarse sand, dirty yellow				
7' - 8'		Clay blue sandy				
8' - 9'		Coarse sand, dirty yellow				
9' - 10'		Coarse sand, dirty blue				
10' - 11'		Sea mud				
11' - 12'		Clay blue				
12' - 13'		Coarse sand blue				
13' - 14'		Sand & gravel 1/16"				
14' - 15'		Sand & gravel 1/8"				
15' - 16'		Clay blue				
16' - 17'		Cemented sand				
17' - 18'		Gravelly clay				
18' - 19'		Cemented gravel				
19' - 20'		Gravel tight dirty 1"				
20' - 21'		Gravel loose 1"				
21' - 22'		Clay blue				
22' - 23'		Gravel 1"				
23' - 24'		Gravel 3/4"				
24' - 25'		Clay blue sand				
Perforated: 434-560 8 holes per 6 in.						
603-650 8 " "						
673-714 8 " "						
Depth water first found 71'						
Standing level before perforating 62'						
" " after " 77'						
Ppg. test						
20 ft. DP - 1060 g.p.m.						
Cement plug 722-727						

LOG OBTAINED BY



INTEGRATED Environmental Services, Inc. 22932 El Toro Road Lake Forest, CA 92630 (949) 608-3290		Boeing C-6 Facility 19503 South Normandie Ave Los Angeles, California 90502		FIGURE NO.: 1
TITLE: Water Supply Well Location Map Parcels A and C		DWN: JOL CHKD: DK DATE: 8/1/00 REV: 8/2/00 PROJECT NO.: 006A/002		